COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

SEXUALLY TRANSMITTED DISEASE PROGRAM

Sexually Transmitted Disease Testing in Los Angeles County: Clinical Laboratory Survey Report, 2002








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DEPARTMENT OF HEALTH SERVICES
Public Health

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December 5, 2003

Dear Laboratory Director:

We are pleased to release our report, *STD Testing in Los Angeles County: Clinical Laboratory Survey Report, 2002*. One hundred seventy laboratories completed surveys this year. Your responses provide valuable information on STD testing in the County. We especially thank you for participating in this important project.

Laboratories in Los Angeles County performed 5.7 million diagnostic tests for syphilis, chlamydia, and gonorrhea in 2002. Testing for these reportable STDs comprised 62% of diagnostic testing for all sexually transmitted diseases. Over 1.8 million nontreponemal tests for syphilis were performed in 2002, two years into the syphilis epidemic identified in March 2000. Nucleic acid amplification tests (NAAT) comprised well over half of all gonorrhea and chlamydia tests and, for the first time, exceeded the number of tests using conventional methods.

The electronic version of this report may be accessed at the STD Program web site, http://lapublichealth.org/std under "Reports." The Sexually Transmitted Disease Program produces several surveillance and special reports. To receive these reports, we invite you to visit http://ladhs.org/listserv and register for STDInfo. You may also fax or mail the STD Program Surveillance Report Request at the end of this report.

We welcome your comments. If you have any suggestions for improving the survey, please call Giannina Donatoni, PhD, at (213) 744-3089 or Clarice Gillis at (213) 744-5979.

Sincerely,

Peter R. Kerndt, MD, MPH
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The *Clinical Laboratory Surveillance Report* is published annually by the Sexually Transmitted Disease Program of the Los Angeles County Department of Health Services. This report is also available in PDF format, online at **www.lapublichealth.org/std.**

If you would like to receive surveillance reports and other information from the STD Program, please fill out the form in Appendix A and mail or fax it to the STD Program. You may also register for STDInfo online at **http://ladhs.org/listserv** to receive surveillance reports and other information from the STD Program via e-mail or call the STD Program at (213) 740-3070 and provide the attendant with your e-mail address.

SUGGESTED CITATION

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INTRODUCTION

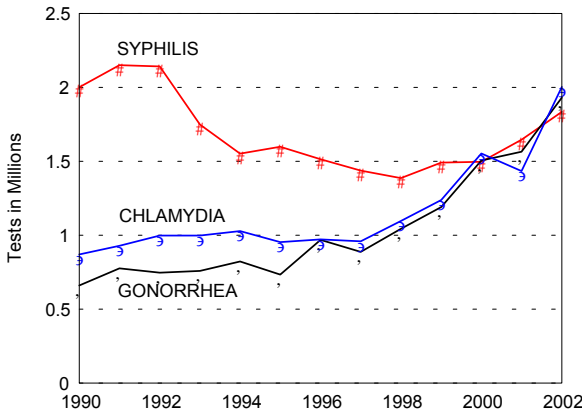
In 1987, the Los Angeles County Department of Health Services (DHS) Sexually Transmitted Disease (STD) Program initiated an annual survey of all clinical laboratories that test for syphilis, chlamydia, or gonorrhea in Los Angeles County (LAC). Surveys of this kind, which ask respondents to provide the same information at set intervals, are the best way to detect and monitor trends and shifts over time. The STD Program developed the Clinical Laboratory Survey to assist disease control efforts through its laboratory surveillance activities.

The STD survey reports on the level of testing by type of testing laboratory, disease, and test methodology. It tracks the implementation of recommended tests and confirmatory procedures. It aids in the monitoring of laboratory compliance with reporting regulations. Finally, the Annual Laboratory Survey Report provides a yearly update on reporting issues and the state of STD testing in Los Angeles County.

The 2002 Annual Clinical Laboratory Survey was mailed to 188 laboratories in March 2003. Of these, eight laboratories discontinued testing for sexually transmitted diseases and nine closed during the previous year, leaving a final sample of 170 (one laboratory that closed completed the survey). These facilities comprise about one third of all laboratories that test for reportable STDs in the State of California.

L.A. County STD Testing

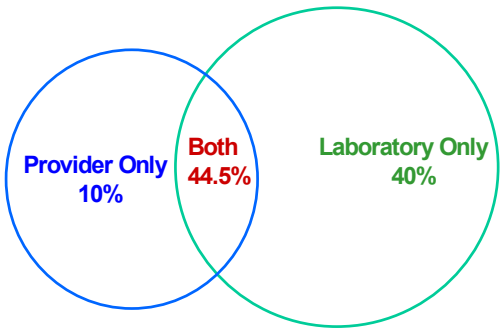
1990-2002



OVERVIEW

Under California law, health care providers and laboratories must report sexually transmitted diseases to the provider's local health department. In practice, clinical laboratories are often the most reliable source of STD morbidity data. During 2002, laboratories and providers both submitted reports on 46% of gonorrhea, 44% of chlamydia, and 62% of early syphilis cases reported to the Los Angeles County Health Department. Laboratories sent reports on 88% of reported gonorrhea, 91% of chlamydia, and 100% of early syphilis cases. Providers

Reports to LA Public Health Department Gonorrhea and Chlamydia, 2002



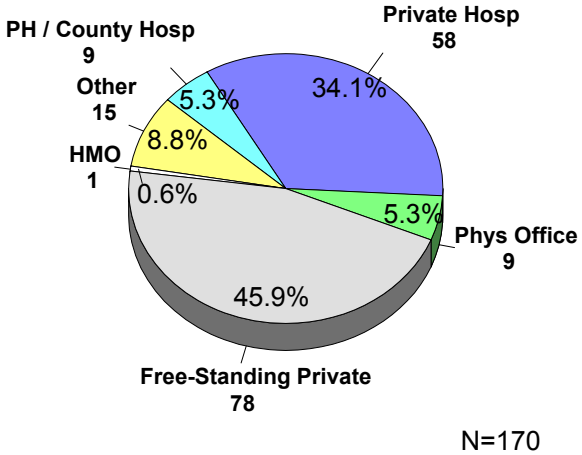
Source: Los Angeles County (DHS) STD Program

submitted Confidential Morbidity Reports (CMRs) on 58% of gonorrhea, 54% of chlamydia, and 62% of early syphilis cases.

One hundred seventy laboratories performed testing for sexually transmitted diseases in 2002. This represents a 1% increase in laboratories since 2001, but a 46% reduction since 1990, when 314 laboratories reported testing. Several factors may explain the decline. One is the growth of managed care, which increased competition and reduced revenues. Higher operating expenses associated with the Clinical Laboratory Improvement Act of 1988 (CLIA 1988) added another disincentive to testing. In past years, financial pressures forced several startup laboratories that had planned to perform STD testing in LAC to withdraw applications for California clinical laboratory licenses.

Most laboratories that performed STD testing in 2002 were either free-standing private laboratories or private hospital laboratories. There was little change in the distribution of types of testing laboratories over the past year.

STD Testing Labs, 2002



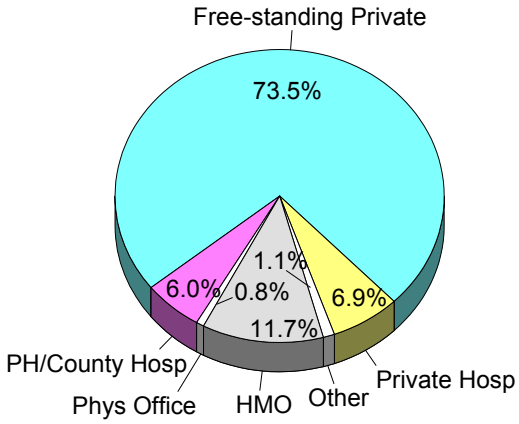
N=170

Free-standing private laboratories, which included several large reference facilities, performed nearly 75% of syphilis, chlamydia, and gonorrhea tests for the year. Laboratories in physician's offices, student health services, military hospitals, and custody facilities performed the least amount of testing, less than 2% combined.

The percentages of specimens processed for providers outside Los Angeles County changed minimally since last year. Laboratories based in Los Angeles County performed little work for outside providers,

Test Volume by Labtype

Syphilis, Chlamydia, Gonorrhea



while 75% processed specimens solely from county-based providers. Only 11% of laboratories received up to 5% of their STD workload from out-of-county providers. For 1% of laboratories, testing for providers outside of Los Angeles County comprised up to 90% of their workloads.

Reference laboratories comprised about 22% of laboratories. Eighty-three percent of laboratories sent positive tests out for confirmatory testing, compared to 69% last year. These facilities usually relied on large reference laboratories located in Los Angeles County. The proportion of laboratories that sent tests to facilities outside of the County also increased, from 23% to 28%. Fifty percent of these contracted with out-of-state

laboratories.

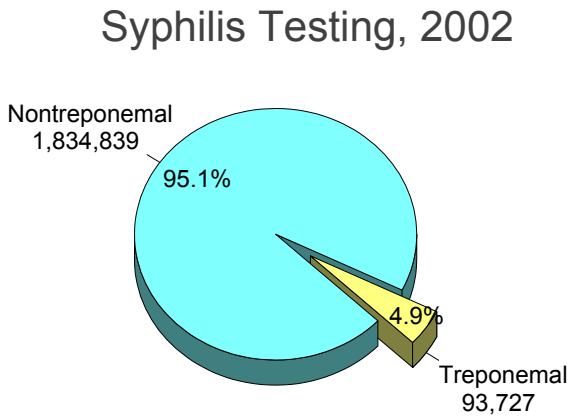
SYPHILIS

Between 1998 and 1999, primary and secondary syphilis rates in LAC declined 29%, falling to levels below those achieved during the national campaign against the disease in the 1950s. Between 1999 and 2000, primary and secondary rates in California suddenly rose 9%, the first increase since 1988. In 2000, an outbreak of primary and secondary syphilis was identified largely among MSM (men that have sex with men) in Los Angeles County.

The volume of syphilis screening tests in LAC declined from 1991 to 1994, to stabilize at about 1.5 million tests per year until 1997. Testing rates began to drop again in 1997, but the trend reversed in 1999 when the number of screening tests rose 7.5% over the previous year. The proportion of reactive nontreponemal tests has fluctuated between 2.0% and 3.1% throughout the past decade.

Syphilis screening increased 11% between 2001 and 2002 (Table 1). LAC laboratories performed 1,834,839 nontreponemal tests; 1.4% were reactive. Rapid Plasma Reagin (RPR) tests remained the screening test of choice, performed by 156 laboratories and totaling 99% of nontreponemal tests. Only four laboratories performed Venereal Disease Research Laboratory (VDRL) blood tests. Seventeen laboratories also ran CSF (cerebrospinal fluid) VDRL tests to rule out neurosyphilis. One percent, or 127, of 12,612 CSF VDRL tests performed in 2002 were reactive. Seventy-nine percent of screening laboratories diluted “rough” RPR and VDRL tests to rule out prozone reactions.

Twenty-six percent of syphilis screening laboratories performed confirmatory testing. Twenty-three laboratories performed 40,085 Fluorescent Treponemal Antibody Absorption



N Tests = 1,928,566

(FTA-ABS) tests; 15,419 (38%) were reactive. Twenty also performed 20,111 Treponema Pallidum Particle Aggutination (TP-PA) confirmatory tests. Thirty-seven percent (7,387) were reactive. Two laboratories performed 33,531 enzyme immunoassay / Immunoglobulin IgG/IgM tests (EIA/IgG/IgM); 1,094 (3.3%) tested positive. Seven darkfield examinations were performed county-wide. None were positive. Seven laboratories screened 42,232 blood bank specimens for syphilis. Fewer than 1% of these tests were reactive.

GONORRHEA

Laboratories performed 1,930,365 tests for *N. gonorrhoeae* in 2002, a 23% increase in test volume over 2001 (Table 1). Positive results were obtained in 1.1% of tests. While these data do not indicate why laboratories performed more tests, it is notable that an increase in Transcription Mediated Amplification (TMA) testing parallelled the overall rise in testing. TMA tests alone totalled 20% (390,041) of gonorrhea tests in 2002. By comparison, laboratories reported 757 TMA tests (<1%) in 2001, the first time the test appeared in the laboratory survey.

Since 1999, the use of Nucleic Acid Amplification Tests (NAAT) has risen dramatically. NAAT, which offer superior sensitivity and specificity over conventional methods, include Polymerase Chain Reaction (PCR), Ligase Chain Reaction (LCR), Strand Displacement Amplification (SDA), and Transcription Mediated Amplification (TMA).

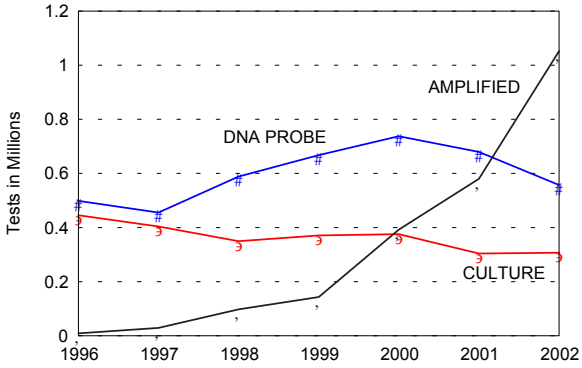
Between 1990 and 1999, the rate of NAAT increased from 9 to 12% of gonorrhea tests. NAAT testing more than doubled in 2000, to 26% of tests. By 2002, NAAT assays comprised 54% of gonorrhea tests. Fifty-two facilities performed 1,051,784 nucleic acid amplification tests, yielding 10,671 (1.0%) positive results. Sixty percent of laboratories confirmed all positives, 14% confirmed low positives only, and 22% did not confirm positive results. The non-amplified DNA probe has been the preferred method for gonorrhea testing for over a decade, used for 7% of all gonorrhea tests in 1990, and stabilizing at 56% of tests in 1998 and 1999. The proportion of non-amplified probe testing began to decline in 2000 and dropped to 29 % of gonorrhea tests in 2002.

Despite the popularity of nonculture tests for gonorrhea, isolation of *N. gonorrhoeae* in culture remains the diagnostic gold standard. One hundred fourteen laboratories performed 307,092, or 16% of gonorrhea tests performed in 2002. About 1% (4,188) of cultures were positive, or 20% of all positive tests. Seventy-eight percent of laboratories that process cultures performed antibiotic susceptibility testing on positive urethral and cervical cultures, and 47% performed beta-lactamase testing on gonococcal isolates.

Urethral Gram stains continued to be underreported. Accurate report records are often difficult to locate. In addition, some laboratories do not realize that gram-negative intracellular diplococci in a male urethral smear should be reported as a presumptive diagnosis of gonorrhea to the

Growth in Amplified Testing

Gonorrhea, 1996-2002



Health Department. In 2002, 79 laboratories performed 14,077 urethral Gram stains; 1.3% were positive.

CHLAMYDIA

Laboratories performed 2,003,852 chlamydia tests in 2002 (Table 2). Positive findings were obtained in 3% of these tests. Culture and direct fluorescent antibody tests were among the least preferred methods, used in only 2% of tests. The use of these tests has been declining since 1992.

The use of Nucleic Acid Amplification Tests (NAAT) for chlamydia testing more than doubled between 2001 and 2002. Fifty-five laboratories chose PCR, LCR, SDA, and TMA to evaluate 68% of all chlamydia tests in 2002. Laboratories performed 1,373,845 assays, obtaining positive results for 50,985 tests (3.7%). Sixty-two percent of laboratories confirmed all positive results, 19% confirmed low positives only, and 17% did not confirm positives.

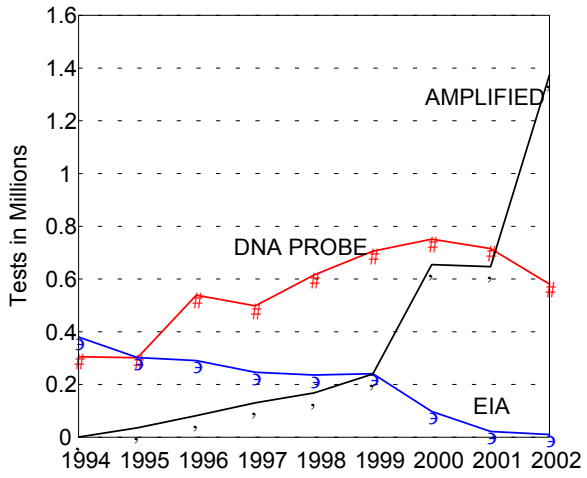
The use of enzyme immunoassay (EIA), once one of the most commonly performed chlamydia tests, has been declining over the past six years while the use of NAAT has

grown. In 1999, 19% of chlamydia tests were performed using EIA; that percentage dropped to under 1% in 2002. Positive EIA results should be verified with a blocking assay because tests for chlamydia lipopolysaccharide (LPS) are nonspecific for *C. trachomatis* and cross-react with some bacteria. Only 20% of laboratories reported verifying presumptively positive EIA tests with a different type of assay during 2002.

The non-amplified DNA probe assay has dominated chlamydia testing in Los Angeles County since 1996. Thirty-one laboratories used the assay for 29% of chlamydia tests in 2002, down from 50% in 2001. The majority of laboratories, 87%, repeated DNA probe findings in the "gray zone." Only 16% also checked presumptively positive results with a different type of assay.

Growth in Amplified Test

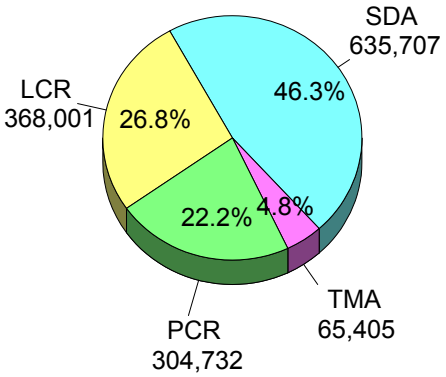
Chlamydia, 1994-2002



Rapid or "stat" antibody tests for the presumptive identification of chlamydia can generate qualitative results within half an hour. While these single-unit test packages do not require expensive or complex equipment to perform, they are labor-intensive and impractical for mass screening. Rapid tests, like LPS-based EIAs, are nonspecific and cross-react with some microorganisms. They also may be more or less sensitive than reported: test performance has not been extensively evaluated in studies incorporating large sample sizes, low-prevalence populations, or outpatient settings. Laboratories did not report the use of rapid tests in 2002.

Amplified Methods

2002 Chlamydia Tests



CHANCROID

Although endemic in tropical countries, this clinician-reportable bacterial STD is comparatively rare in the United States. Laboratory diagnosis of *Haemophilus ducreyi* infection is difficult. Gram stains are unreliable, the classic "school of fish" formation of organisms often difficult to interpret in clinical specimens. EIA and PCR methods are not currently available. Culture remains the method of choice for definitive diagnosis, and this requires special media and incubation conditions.

Three laboratories processed 21 chancroid cultures during 2002, none of which were positive.

NON-REPORTABLE STDS: TESTING FOR HIV, HPV, HSV, AND HEPATITIS B

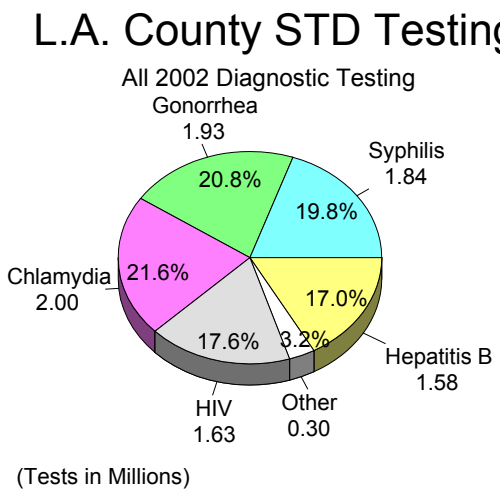
Tests for non-reportable STDs comprised about 38% of the STD testing performed in LA County during 2002. During the year, 102 laboratories performed 1,631,371 HIV EIA screenings on oral, serum, and urine specimens (Table 3). About 1% (17,777) tested positive. Fourteen laboratories performed confirmatory HIV testing by either Western Blot (WB) and Indirect fluorescent antibody (IFA). Respondents reported confirming 64% of 30,109 WB and 81% of 331 IFA tests. One facility isolated HIV in three of 296 cultures.

Twenty-eight facilities monitored patients through CD4 and viral load testing. Twenty-one laboratories performed 142,084 CD4 counts. Sixteen processed 120,203 PCR viral load tests and six performed 64,667 bDNA tests. Only three laboratories performed both PCR and bDNA assays (4,221 specimens). Blood bank testing for HIV yielded 283 positive units of 166,013 tested. Seven laboratories (7.5%) performed these tests.

Twelve laboratories performed Human Papillomavirus (HPV) typing using Hybrid Capture II in 2002. High risk types were reported in 45% (44,579) of 98,271 tests and low risk types were identified in 21% (1,521) of 7,160 tests. The combined test does not differentiate between high and low risk HPV types. Combined tests on 5,811 samples produced 2,560 (44%) positives.

Pap smears do not test for sexually transmitted diseases, but an abnormal smear can be one indicator of HPV infection. During 2002, 58 laboratories performed 2,850,849 Pap smears. Readings of AS-CUS and higher were reported in 266,323 (9%) samples.

One-hundred eight facilities performed 1,576,926 Hepatitis B surface antigen tests. Positive results were obtained in 27,661 (1.7%) tests.



Laboratories performed 190,080 tests for Herpes Simplex Virus (HSV) in 2002, with

54,548 (28%) testing positive. Eighteen laboratories performed 77,967 cultures, isolating the virus in 20,719 (27%) cultures. Direct antigen tests, including Enzyme Immunoassay (EIA), Indirect Fluorescent Antibody (IFA), and Direct Fluorescent Antibody (DFA), comprised under 3% of herpes tests and 5% of positive results. One laboratory detected herpes in 17 of 361 (5%) PCR tests.

Serological testing for herpes exceeded 56% of herpes tests. Twelve laboratories processed 23,818 specimens for non-specific HSV antibody, obtaining positive results in 4,048 (17%) tests. Fourteen performed 50,668 tests for type-specific HSV-2 IgG antibody. Positive results were given for 17,835 (35%) tests. Five laboratories performed type-specific HSV-2 IgM antibody tests. These laboratories processed 33,472 specimens and reported 9,012 (27%) positives.

LIMITATIONS OF DATA

The Annual Clinical Laboratory Survey reports on testing for sexually transmitted diseases performed in LAC. It does not attempt to include tests that out-of-jurisdiction laboratories performed for providers in LAC. In reporting the total number of tests for the year, the survey likely underestimates tests performed in the county.

One should interpret the survey findings cautiously, given the following limitations. One was the ability to identify all laboratories that performed testing for sexually transmitted diseases in LAC. Laboratories selected to survey were known to have performed gonorrhea, syphilis, or chlamydia testing during 2002. Laboratories that tested for nonreportable STDs only were excluded from the sample. Another limitation was the inability to obtain responses from all testing laboratories that closed. Only those that could be located through forwarding addresses and had ready access to their files completed surveys. A final limitation was the inability to distinguish between testing performed for providers within and outside of Los Angeles County. Respondents estimated the proportion of tests performed for providers within the County, but the estimate was not used to adjust the number of reported tests. First, any estimation method is prone to error. Second, a global estimate would not capture differences across tests, and finally, the proportion of tests performed for county-based providers would differ from the proportion of positive tests for those providers.

SUMMARY

Clinical laboratories in Los Angeles County performed 5.7 million diagnostic tests for syphilis, chlamydia, and gonorrhea in 2002. Testing for these reportable diseases comprised 62% of diagnostic testing for all sexually transmitted diseases. The volume of diagnostic tests for both reportable and nonreportable STDs (excludes Pap smears) increased 22% between 2001 and 2002. Nearly one-third of laboratories used NAAT to process chlamydia and gonorrhea tests. In 2002, the volume of NAAT for chlamydia and gonorrhea exceeded the number of tests using conventional methods for the first time.

STD PROGRAM ACTIVITIES SUPPORTING LABORATORY REPORTING

STD Program staff routinely visit reporting laboratories to encourage timely, complete reporting and provide assistance. Visitations improve cooperation between laboratories and the STD Program, increase compliance with reporting laws, and provide an opportunity to ask questions and share information.

STD Program staff have prepared a comprehensive information packet to help laboratories meet their reporting requirements. The packet provides reporting instructions and discusses the role of laboratories in disease control and intervention. It also includes copies of the California Code of Regulations on laboratory reporting and information on the Health Insurance Portability and Accountability Act (HIPAA) and Public Health from the Centers for Disease Control and Prevention (CDC). Call Clarice Gillis at (213) 744-5979 to request a packet.

Please direct questions about the survey or laboratory reporting issues to Giannina Donatoni, PhD, MT (ASCP) at (213) 744-3089.

GLOSSARY

bDNA: branched DNA. Measures HIV RNA. Used to monitor infection progression, monitor response to therapy, and evaluate prognosis.

CD4 cell: a type of white blood cell. Also called a T-lymphocyte or helper T-cell. T-cells activate antibody responses against viruses and bacteria. The HIV virus targets helper T-cells.

CD4 count: an assessment of immune status that involves quantifying (measuring) T-lymphocytes. CD4 counts may be used to monitor treatment. Individuals with lowered CD4 counts are at greater risk of developing opportunistic infections.

Chlamydia trachomatis: the causative agent of chlamydia.

Culture: grow bacteria or viruses using media or cells. Agent is then isolated and identified. Highly specific.

DFA: Direct Fluorescent Antibody. Direct detection of organism in a clinical specimen using monoclonal antibodies and immunofluorescent microscopy.

DNA Probe: non-amplified probe. Detects organism nucleic acid directly from specimen.

EIA/IgG: Enzyme Immunoassay/ Immunoglobulin G. Assay for the indirect detection of IgG antibody to *Treponema pallidum.*

FTA-ABS: Fluorescent Treponemal Antibody Absorption. A confirmatory test for syphilis.

IFA: Indirect Fluorescent Antibody.

LCR: Ligase Chain Reaction. Test combines amplification and detection of organism DNA in a clinical specimen.

NAAT: Nucleic Acid Amplification Test. Generic name for nucleic acid amplification tests such as LCR, PCR, SDA, and TMA.

Neisseria gonorrhoeae: the causative agent of gonorrhea.

PCR: Polymerase Chain Reaction. A nucleic acid amplification technique. The amplified product is then identified using another test.

prozone reaction: effect of antibody excess in immunological reactions. The antibody-antigen reaction may be partially or completely inhibited when the antibody level is greater than the amount required for the reaction.

Reference laboratory: a laboratory that performs STD testing for another laboratory. Laboratories that use reference laboratories often perform screening tests themselves and send positive specimens to reference laboratories for confirmatory testing.

RPR: Rapid Plasma Reagin. A sensitive but nonspecific screening test for syphilis. Positive tests must be confirmed with a test that is specific for antibodies to the treponemal antigen.

SDA: Strand Displacement Amplification. Amplification and detection of organism DNA in a clinical specimen.

TMA: Transcription Mediated Amplification. Amplification and detection of organism DNA or RNA in a clinical specimen.

TP-PA: Treponema Pallidum Particle Aggutination test. A confirmatory test for syphilis.

Treponema pallidum: the causative agent of syphilis.

viral load for HIV: the number of viral particles per milliliter of blood. Used to monitor and manage treatment. Also used to predict how long someone will remain healthy or how quickly disease may progress.

VDRL: Venereal Disease Research Laboratory. A nonspecific test for syphilis. Positive tests must be confirmed with a test that is specific for antibodies to the treponemal antigen.

TABLE 1: SYPHILIS AND GONORRHEA TESTING IN LOS ANGELES COUNTY, 1994 - 2002

STD & Type of Test	Test Characteristics	Testing Year (# of responding laboratories*)								
		1994 (237)	1995 (266)	1996 (256)	1997 (239)	1998 (222)	1999 (216)	2000 (189)	2001 (168)	2002 (170)
SYPHILIS RPR & VDRL	# of tests	1,551,815	1,598,538	1,514,451	1,437,280	1,386,799	1,491,257	1,496,517	1,646,529	1,834,839
	# pos. tests	44,309	49,291	37,215	29,036	27,920	30,072	30,799	27,015	26,685
	% positive	2.9	3.1	2.5	2.0	2.0	2.0	2.0	1.6	1.4
GONORRHEA Culture	# of tests	516,309	478,694	445,075	403,899	349,793	370,748	375,194	304,170	307,092
	# pos. tests	5,931	7,380	4,864	4,245	3,001	2,449	2,651	2,446	4,188
	% positive	1.1	1.5	1.1	1.0	0.9	0.6	0.7	0.8	1.4
GONORRHEA DNA Probe	# of tests	306,931	255,218	498,400	455,124	588,176	667,401	737,419	679,081	557,217
	# pos. tests	2,394	1,926	3,212	3,376	4,673	4,504	8,202	7,934	5,602
	% positive	0.8	0.8	0.6	0.7	0.8	0.7	1.1	1.2	1.0
TOTAL Gonorrhea Tests**	# of tests	823,278	733,912	968,994	888,059	1,044,196	1,191,150	1,513,515	1,573,040	1,930,365
	# pos. tests	8,327	9,306	8,919	7,955	9,721	9,997	15,835	25,574	20,661
	% positive	1.0	1.3	0.9	0.9	0.9	0.8	1.0	1.6	1.1

** Number of responding laboratories represents all laboratories known to be performing at least one type of test for a reportable STD.*

*** Includes GC testing by urethral Gram stain, GC culture, DNA probe, and nucleic acid amplification tests (NAAT).*

TABLE 2: CHLAMYDIA TESTING IN LOS ANGELES COUNTY, 1994 - 2002

STD & Type of Test	Test Characteristics	Testing Year (# of responding laboratories*)								
		1994 (237)	1995 (266)	1996 (256)	1997 (239)	1998 (222)	1999 (216)	2,000 (189)	2001 (168)	2002 (170)
CHLAMYDIA Culture	# of tests	47,719	32,705	26,555	26,814	28,701	24,241	24,543	20,298	19,098
	# pos. tests	818	606	721	630	502	485	470	354	370
	% positive	1.7	1.9	2.7	2.3	1.7	2.0	1.9	1.7	1.9
CHLAMYDIA Direct Fluorescent Antibody (DFA)	# of tests	294,701	278,764	31,086	54,615	40,796	27,858	22,297	28,686	20,070
	# pos. tests	10,082	9,191	1,315	1,591	1,096	744	475	556	361
	% positive	3.4	3.3	4.2	2.9	2.7	2.7	2.1	1.9	1.8
CHLAMYDIA Enzyme Immunoassay (EIA)	# of tests	379,635	302,336	290,603	246,453	235,996	240,999	97,577	21,943	10,319
	# pos. tests	19,171	14,416	8,916	8,443	6,059	8,825	5,575	1,676	362
	% positive	5.0	4.8	3.1	3.4	2.6	3.7	5.7	7.6	3.5
CHLAMYDIA DNA Probe	# of tests	305,302	301,590	538,607	498,075	615,193	705,445	751,016	715,393	580,520
	# pos. tests	12,615	11,173	13,902	16,833	17,944	22,546	26,119	23,517	15,020
	% positive	4.1	3.7	2.6	3.4	2.9	3.2	3.5	3.3	2.6
CHLAMYDIA Amplified Tests	# of tests	654	35,608	81,682	130,530	168,000	239,802	654,658	646,739	1,373,845
	# pos. tests	18	2,599	5,964	9,263	9,480	12,913	28,543	30,672	50,985
	% positive	2.8	7.3	7.3	7.1	5.6	5.4	4.3	4.7	3.7
TOTAL Chlamydia Tests	# of tests	1,028,033	954,213	971,900	958,922	1,097,055	1,238,989	1,553,570	1,434,617	2,003,852
	# pos. tests	42,707	38,138	30,915	36,822	35,327	45,532	61,356	56,806	67,098
	% positive	4.2	4.0	3.2	3.8	3.2	3.7	3.9	3.9	3.3

**Number of responding laboratories represents all laboratories known to be performing at least one type of test for a reportable STD.*
***Laboratories did not report use of amplified testing for chlamydia prior to 1994.*

TABLE 3: HIV TESTING IN LOS ANGELES COUNTY, 1994 - 2002

Type of Test (# of labs that performed test in 2002)	Test Characteristics	Testing Year (# labs performing HIV testing) 1994 (100)	1995 (130)	1996 (133)	1997 (126)	1998 (125)	1999 (128)	2000 (120)	2001 (100)	2002 (102)
HIV Enzyme Immunoassay (EIA) (103)	# of tests	1,004,676	945,853	791,567	849,755	888,264	1,179,935	1,088,549	1,377,076	1,631,371
	# pos. tests	15,480	12,119	27,175	14,556	15,804	13,257	14,937	15,235	17,777
	% positive	1.5	1.3	3.4	1.7	1.8	1.1	1.4	1.1	1.1
HIV Rapid Tests (SUDS Murex, etc.)	# of tests	9,319	1,626	2,544	1,698	553	631	None reported	None reported	None reported
	# pos. tests	600	14	24	7	0	8	-	-	-
	% positive	6.4	0.2	0.9	0.4	0.0	1.3	-	-	-
HIV Indirect Fluorescent Antibody (IFA) (2)	# of tests	2,007	1,399	790	1,045	538	339	288	305	331
	# pos. tests	1,089	846	477	466	350	260	221	247	267
	% positive	54.3	60.5	60.4	44.6	65.0	76.7	76.7	81.0	80.7
HIV Western Blot (13)	# of tests	13,439	11,263	30,653	15,307	23,010	20,202	21,029	26,917	30,109
	# pos. tests	11,497	7,998	27,343	12,348	16,483	12,989	13,978	16,310	19,365
	% positive	85.6	71.0	89.2	80.7	71.6	64.3	66.5	60.6	64.0
HIV Polymerase Chain Reaction (PCR) (3)	# of tests	6,811	5,981	13,807	10,477	25,693	8,110	6,248	3,449	10,351
	# pos. tests	1,922	2,137	1,981	7,106	11,762	2,064	355	314	197
	% positive	28.2	35.7	14.3	67.8	45.8	25.4	5.7	9.1	1.9
CD4 (21)	# of tests	n/a	34,530	99,689	89,934	104,465	98,309	78,650	132,631	142,084
Viral Load: PCR (16)	# of tests	n/a	57,385	8,475	n/a	44,138	25,218	61,391	104,447	120,203
Viral Load:bDNA (6)	# of tests	n/a	n/a	n/a	n/a	22,615	16,430	41,930	85,419	64,667
Viral Load: PCR and bDNA* (3)	# of tests	n/a	n/a	n/a	n/a	317,303	149,043	19,921	23,706	4,221

*Branched DNA

APPENDIX A: STD PROGRAM SURVEILLANCE REPORT REQUEST

To continue to receive sexually transmitted disease surveillance reports for Los Angeles County and other information from the STD Program, please fill out this form and fax or mail it in to the phone number and address provided. **This information will only be used by the STD Program to disseminate surveillance reports and other information to interested parties.** Please be sure to include,

- **e-mail address,**
- **name and mailing address,**
- **and, phone number (to help us keep our distribution list updated)**

[ ]MD [ ]PA/NP [ ]RN [ ]PhD [ ]Clinic Admin. [ ]Other:

First Name:	Last Name:	Title (i.e., Director, Coordinator, etc.):

Organization Name:	Street Address:

City:	State:	Zip Code:	Phone:

E-mail:	Type of Organization (i.e., CBO, MCO, OPP, etc.):

Please select the surveillance reports you would like to receive by checking off the appropriate boxes:

- ❑ **All Surveillance and Special Reports from the STD Program**
  - ❑ **Annual STD Morbidity Report**
  - ❑ **Quarterly STD Morbidity Report (Planned for 2003)**
  - ❑ **Monthly Early Syphilis Surveillance Summary**
  - ❑ **Syphilis Elimination Weekly Activity Report (Available only via e-mail)**
  - ❑ **Special Morbidity and Project Reports (Periodic)**
  - ❑ **STD Treatment Updates (Periodic)**

Fax to (No cover page needed):

(213) 749-9606

OR

Mail to:

Attn: Maria Venzor
STD Program
2615 S. Grand Avenue, Rm. 500
Los Angeles, CA 90007

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

SEXUALLY TRANSMITTED DISEASE PROGRAM

2615 South Grand Avenue, Room 500
Los Angeles, CA 90007